

AMENDMENT**In the claims:**

This listing of claims replaces all prior versions, and listings, of claims for this application.

1. (Currently Amended) A porous carbon substrate comprising a sheet which includes short carbon fibers dispersed in random directions and a carbonized resin binding the short carbon fibers,

wherein the sheet has pores and wherein the volume of pores having pore sizes of 10 μm and less among the pores, per unit weight of the sheet, is in the range of 0.05 to 0.16 cc/g, and the peak pore size of the pores in the porous carbon substrate is in the range of 25 to 55 μm .

2. (Previously Presented) A porous carbon substrate according to claim 1, wherein the thickness of the porous carbon substrate is in the range of 0.10 to 0.25 mm.

3. (Previously Presented) A porous carbon substrate according to claim 1, wherein the porosity of the porous carbon substrate is in the range of 70 to 90%

4. (Previously Presented) A porous carbon substrate according to claim 1, wherein the average fiber diameter of the short carbon fibers is in the range of 5 to 20 μm .

5. (Currently Amended) A porous carbon substrate according to claim 1, further comprising a carbonaceous powder.

6. (Previously Presented) A porous carbon substrate according to claim 1, wherein the maximum bending load of the porous carbon substrate, measured by a three-point bending test, is in the range of 0.25 to 2.0 N/cm.

7. (Previously Presented) A porous carbon substrate according to claim 1, wherein the maximum bending load displacement of the porous carbon substrate, measured by a three-point bending test, is in the range of 0.7 to 2.3 mm.

8. (Previously Presented) A porous carbon substrate according to claim 1, wherein the bending modulus of elasticity of the porous carbon substrate, measured by a three-point bending test, is in the range of 1 to 15 GPa.

9. (Previously Presented) A porous carbon substrate according to claim 5, wherein the particle diameter of the carbonaceous powder is in the range of 0.01 to 10 μm .

10. (Previously Presented) A porous carbon substrate according to claim 5, wherein the carbonaceous powder is a powder of graphite or carbon black.

11. (Canceled)

12. (Previously Presented) A porous carbon substrate according to claim 1, wherein the average fiber length of the short carbon fibers is in the range of 3 to 20 mm.

13. (Previously Presented) A porous carbon substrate according to claim 1, wherein the density of the porous carbon substrate is in the range of 0.3 to 0.7 g/cm³.

14. (Canceled)

15. (Currently Amended) A gas diffusion material, comprising:
~~the porous carbon substrate as set forth in claim 1, 2, 3, 4, 9 or 10~~
a porous carbon substrate comprising a sheet which includes short carbon fibers dispersed in random directions and a carbonized resin binding the short carbon fibers,

wherein the sheet has pores; the volume of pores having pore sizes of 10 μm and less among the pores, per unit weight of the sheet, is in the range of 0.05 to 0.16 cc/g; and
a water repellent material added to the substrate.

16. (Currently Amended) A gas diffusion material comprising a conductive gas diffusion layer formed at least on one side of the porous carbon substrate as set forth in claim 1, 2, 3, 4, 9 or 10.

17. (Original) A gas diffusion material comprising a conductive gas diffusion layer formed at least on one side of the gas diffusion material as set forth in claim 15.

18. (Previously Presented) A membrane-electrode assembly comprising a solid polymeric electrolyte membrane, catalyst layers containing catalyst-loaded carbon provided on

both the surfaces of the membrane, and gas diffusion materials provided in contact with both the catalyst layers, characterized in that at least one of the gas diffusion materials is the gas diffusion material as set forth in claim 15.

19. (Currently Amended) A fuel cell, comprising the which comprises a membrane-electrode assembly as set forth in claim 18, the membrane-electrode assembly comprising:
a solid polymeric electrolyte membrane;
catalyst layers containing catalyst-loaded carbon provided on both of the surfaces of the membrane; and
gas diffusion materials provided in contact with both of the catalyst layers,
wherein at least one of the gas diffusion materials is a gas diffusion material comprising a
water repellent material added to the substrate and a porous carbon substrate comprising a sheet
which includes short carbon fibers dispersed in random directions and a carbonized resin binding
the short carbon fibers, the sheet having pores, and the volume of pores having pore sizes of 10
μm and less among the pores, per unit weight of the sheet, being in the range of 0.05 to 0.16
cc/g.

20-48. (Canceled)

49. (New) The gas diffusion material according to claim 15, wherein the thickness of the porous carbon substrate is in the range of 0.10 to 0.25 mm.

50. (New) The gas diffusion material according to claim 15, wherein the porosity of the porous carbon substrate is in the range of 70 to 90%.

51. (New) The gas diffusion material according to claim 15, wherein the average fiber diameter of the short carbon fibers is in the range of 5 to 20 μm.

52. (New) The gas diffusion material according to claim 15, wherein the porous carbon substrate contains a carbonaceous powder, and a particle diameter of the carbonaceous powder is in the range of 0.01 to 10 μm.

53. (New) The gas diffusion material according to claim 15, wherein the porous carbon contains a carbonaceous power, and the carbonaceous powder is a powder of graphite or carbon black.

54. (New) The fuel cell according to claim 19, wherein a thickness of the porous carbon substrate is in the range of 0.10 to 0.25 mm.

55. (New) The fuel cell according to claim 19, wherein a porosity of the porous carbon substrate is in the range of 70 to 90%.

56. (New) The fuel cell according to claim 19, wherein an average fiber diameter of the short carbon fibers is in the range of 5 to 20 μm .

57. (New) The fuel cell according to claim 19, wherein the porous carbon substrate contains a carbonaceous power, and a particle diameter of the carbonaceous powder is in the range of 0.01 to 10 μm .

58. (New) The fuel cell according to claim 19, wherein the porous carbon substrate contains a carbonaceous power, and the carbonaceous powder is a powder of graphite or carbon black.